

2023

Dark Patterns in Law and Economics Framework

Katri Nousiainen

Catalina Perdomo Ortega

Follow this and additional works at: <https://lawcommons.luc.edu/lclr>



Part of the [Consumer Protection Law Commons](#)

Recommended Citation

Katri Nousiainen & Catalina P. Ortega *Dark Patterns in Law and Economics Framework*, 36 Loy. Consumer L. Rev. 90 (2024).

Available at: <https://lawcommons.luc.edu/lclr/vol36/iss1/4>

This Feature Article is brought to you for free and open access by LAW eCommons. It has been accepted for inclusion in Loyola Consumer Law Review by an authorized editor of LAW eCommons. For more information, please contact law-library@luc.edu.

DARK PATTERNS IN LAW AND ECONOMICS FRAMEWORK

Katri Nousiainen and Catalina Perdomo Ortega

INTRODUCTION

Online commercial contracting could employ more transparency and comprehensibility. Often consumers have little or no understanding of their rights and obligations under these contracts. Unfortunately, these online contracts often become binding before one understands or can clarify the content of the contract terms. This situation has worsened by employing dark patterns in online contracting.

The use of dark patterns raises concerns as to whether the current online contracting practice is socially and economically optimal, and whose best interests they serve. Regrettably, the current online contracting practice often leads consumers to buy more products or services than they intended to, with a higher price, and find themselves unintentionally bound by additional transactions.

Legal design can provide incentives to tackle the use of dark patterns in online contracting, such as increased legal quality, reduced transaction costs, business sustainability, and competitive business advantage. The proposed legal design approach would better serve both companies and consumers in fostering sustainable business and economic market function.

This article is divided into three sections. In the first section, we will describe the current state of affairs regarding the legal and regulatory framework employed to police the use of dark patterns in the United States. In the second section, we will explain the market failure caused by dark patterns and will present the General Theory of Legal Design on Online Consumer Contracting within the Law and Economics Framework. We will discuss the benefits and advantages of legal design in the law and economics framework of commercial contracting: what incentives, advantages, and disadvantages the present state of complexity has; and lastly, how the legal design approach can foster comprehensibility to tackle dark patterns in online contracting. Lastly, we will provide a general overview of key topics that policymakers

should consider when regulating dark patterns. This paper brings forward a call for action to defeat the use of dark patterns in online contracting. Furthermore, this paper opens a novel research direction toward conducting empirical research on legal design defeating dark patterns in online consumer contracting.

*CURRENT LEGAL AND REGULATORY FRAMEWORK TO
POLICE DARK PATTERNS*

There has been a growing global interest by both national authorities and international organizations to understand and regulate dark patterns. Many organizations and legislators have attempted to produce definitions of dark patterns – the following are some examples:

“a user interface designed or manipulated with the substantial effect of subverting or impairing user autonomy, decisionmaking, or choice, as further defined by regulation.”¹

“(...) design practices that trick or manipulate users into making choices they would not otherwise have made and that may cause harm.”²

“Business practices employing elements of digital choice architecture, in particular in online user interfaces, that subvert or impair consumer autonomy, decision-making or choice. They often deceive, coerce or manipulate consumers and are likely to cause direct or indirect consumer detriment in various ways, though it may be difficult or impossible to measure such detriment in many instances.”³

Essentially, dark patterns are architectures that confuse, coerce, manipulate, or deceive users into taking certain actions either without them realizing, or against their preferences or interest. The breadth of this definition highlights one of the main challenges associated with dark patterns: as they can vary in design, operation, and effects, devising a specific definition can be difficult.

¹ California Privacy Rights Act of 2020, Cal. Civ. Code §§ 1798.100-1798.199 (2020). Consulted at: https://leginfo.legislature.ca.gov/faces/codes_display-Text.xhtml?division=3.&part=4.&lawCode=CIV&title=1.81.5.

² Federal Trade Commission, *Bringing Dark Patterns to Light*, Staff Report, (Sep. 2022) https://www.ftc.gov/system/files/ftc_gov/pdf/P214800%20Dark%20Patterns%20Report%209.14.2022%20-%20FINAL.pdf.

³ OECD, *Dark Commercial Patterns*, in OECD DIGITAL ECONOMY PAPERS 5 (OECD, Digital Economy Papers, No. 336., 2022, <https://doi.org/10.1787/44f5e846-en>).

Despite substantive scholarship on dark patterns, courts in the United States have not been proactively using the term when issuing decisions policing manipulative user interfaces. Instead, courts have usually relied on existing doctrines when dealing with manipulative contractual designs, such as classic contract law and the Children's Online Privacy Protection Act (COPPA).

The following are a few examples of cases⁴ that used generic regulation to police behaviour that could currently be considered as a dark pattern:

In *Specht v. Netscape Communications Corp.*⁵, users reported that when they downloaded one of Netscape's programs and accepted its terms and conditions, a second plug-in program was also inadvertently installed. This program had its own license terms, which were placed at the bottom of the website, after the "download" button (where users rarely scrolled) and did not request an "I agree" check. Justice Sotomayor ruled that downloading the second plug-in did not constitute acceptance of its terms and stated that contractual terms that are not called to the attention of the recipient which are on a "submerged screen", are not sufficient to notify consumers of those terms. This decision from 2002 could not have specifically used the term "dark patterns", as it was coined later in 2010 by Harry Brignull.⁶ However, the Court was still able to decide on a manipulative website design as an issue of assent under classic U.S contract law.

Even after the term was coined, a 2014 case did not resort to the term dark patterns. In *Nguyen v. Barnes & Noble Inc.*⁷, Barnes & Noble launched a fire sale of Touchpads, and the plaintiff purchased two units on their website. The following day, Barnes & Noble informed the plaintiff that they could not complete the order due to unexpected high demand and canceled the purchase. The plaintiff sued in federal court, and Barnes & Noble moved to stay court proceedings based on an arbitration clause included in the Terms of Use of its website (available via a hyperlink located in the bottom left-hand corner of the website). The Court denied the enforceability of the arbitration clause included in the Terms of Use, stating that (i) these terms were a part of a browsewrap agreement, (ii) Nguyen had insufficient notice of the Terms of Use and there was no evidence that Nguyen had actual knowledge of the agreement, and (iii) when a website makes its terms

⁴ This is not an exhaustive list of cases.

⁵ *Specht v. Netscape Commc'ns Corp.*, 306 F.3d 17, 20 (2d Cir. 2002).

⁶ Harry Brignull, *Dark patterns*, <https://www.deceptive.design> (2010).

⁷ *Nguyen v. Barnes & Noble Inc.*, 763 F.3d 1171, 1173 (9th Cir. 2014).

available through a “conspicuous hyperlink” that does not prompt users to take any affirmative action to demonstrate assent, the is insufficient notice. This case deals with a manipulative design of a website, but does not use the term “dark patterns.” This court also resorted to U.S. contract law to police this behavior.

Finally, a recent 2020 case also failed to resort to “dark patterns”. In *McDonald v. Kiloo A/S*⁸, a group of parents initiated a class action against the developers of the app *Subway Surfers* and against a group of software development kits (SDKs). The game developers and the SDKs received the transmission of personal data from users of the game (children) while they were playing it online. SDKs collected personal identifiable information directly from the mobile device where the child was playing and also detected the child’s activity across multiple apps, platforms, and devices. Afterwards, they used this data to facilitate targeted behavioral advertising. This transmission of data occurred at the computer code level of the app, and was not perceived by users of the app. Plaintiffs argued a violation of the federal Children’s Online Privacy Protection Act (COPPA), a common law tort claim of intrusion upon seclusion, and a consumer protection claim under New York General Business Law § 349(a). Although the case was settled, the documents available do not mention “dark patterns”.

These cases illustrate how courts in the U.S. have resorted to a fragmented, generic legal framework to police dark patterns, including contract law and data protection. Recently, however, policymakers in the United States have developed a growing interest in specifically regulating dark patterns.

In the U.S., California was one of the first states to expressly define dark patterns in regulation. The California Privacy Rights Act (CPRA), which amended the California Consumer Privacy Act (CCPA)⁹, defines a dark pattern as: “[a] user interface designed or manipulated with the substantial effect of subverting or impairing user autonomy, decision-making, or choice, as further defined by regulation.” Furthermore, the CPRA states that consent obtained through a

⁸ *McDonald v. Kiloo ApS*, 385 F. Supp. 3d 1022, 1027 (N.D. Cal. 2020).

⁹ California Consumer Privacy Act of 2018, Cal. Civ. Code §§ 1798.100-1798.199 (2018). The CCPA enacted in 2018 did not expressly define “dark patterns” nor did it include an express prohibition. The CPRA amended to CCPA and was passed in November 2020. It was in this amendment where dark patterns were expressly defined and sanctioned with lack of consent. Nonetheless, most of the CPRA’s provisions entered into full force and effect on January 1, 2023. This could explain why Courts have not still used the CPRA to police dark patterns.

dark pattern is not valid¹⁰ These CPRA provisions came into full force and effect in January 2023¹¹, which explains the lack of case law applying the specific concept of dark patterns in the U.S. Further research could verify whether the CPRA causes a shift in California Courts' use of the term dark patterns, although the CPRA establishes the California Privacy Protection Agency as the body in charge of enforcing the CPRA.

Colorado also enacted legislation defining dark patterns and prohibiting their use when obtaining consent under the Colorado Privacy Act (CPA).

However, the CPRA and the CPA (and other upcoming state law regulations) seem to refer to the use of dark patterns for the collection of personal data. This excludes other types of dark patterns that do not trigger personal data obligations, but are manipulative and deceptive (e.g. sneak into basket, price comparison prevention, nagging, scarcity).¹²

Additionally, certain U.S. agencies are starting to refer to “dark patterns” in their decisions policing manipulative contractual designs¹³ Under the Federal Trade Commission Act, the Federal Trade Commission (FTC) combats the use of unfair or deceptive practices that affect commerce in interstate trade. In this role, the FTC has filed actions against several companies for the use of dark patterns, even if some cases do not specifically use this term¹⁴

The following chart summarizes general regulations and doctrines that have been generally used in the U.S. to tackle the use of dark

¹⁰ California Privacy Rights Act of 2020, Cal. Civ. Code §§ 1798.140(h).

¹¹ There is a 12-month lookback period that began on January 1, 2022, by which personal information collected by businesses as of this date will be subject to the CPRA's requirements.

¹² See Table 1 in Jamie Luguri & Strahilevitz Lior, *Shining a Light on Dark Patterns*, 13 J. of Legal Analysis 43 (2021), <https://ssrn.com/abstract=3431205>.

¹³ Readers interesting in delving into more U.S decisions touching upon dark patterns should research Federal Trade Commission's decisions. Some relevant cases are *FTC v. Lending Club* (Case 3:18-cv-02454), *FTC v. ABC mouse* (Case 2:20-cv-07996), *FTC v. Vonage* (Case 3:22-cv-06435), *FTC v. Vizio* (Case 2:17-cv-00758), and others that can be consulted here: <https://www.deceptive.design/cases?jurisdiction=USA>.

¹⁴ See Stipulated Order for Permanent Injunction and Civil Penalty Judgment at 1-45, U.S. v. Epic Games, Inc., No. 5:22-CV-00518-BO,(E.D.N.C.2022)(FTC), https://www.ftc.gov/system/files/ftc_gov/pdf/2223087EpicGamesSettlement.pdf. See also Jamie Luguri & Strahilevitz Lior, *Shining a Light on Dark Patterns*, 13 J. of Legal Analysis 43 (2021), <https://ssrn.com/abstract=3431205>.

patterns, and existing or upcoming regulation specifically referring to dark patterns:

Existing regulation or doctrine used to police dark patterns in the U.S.	
Federal Trade Commission Act (“FTC Act”) – 1914 (as further amended)	<p>Section 5(a) of the FTC Act, 15 U.S.C. § 45(a), prohibits “unfair or deceptive acts or practices in or affecting commerce.”¹⁵</p> <p><i>An act or practice is unfair where it:</i></p> <ul style="list-style-type: none"> · <i>Causes or is likely to cause substantial injury to consumers,</i> · <i>Cannot be reasonably avoided by consumers, and</i> · <i>Is not outweighed by countervailing benefits to consumers or to competition.</i> <p><i>An act or practice is deceptive where:</i></p> <ul style="list-style-type: none"> · <i>A representation, omission, or practice misleads or is likely to mislead the consumer;</i> · <i>A consumer’s interpretation of the representation, omission, or practice is considered reasonable under the circumstances; and</i> · <i>The misleading representation, omission, or practice is material.</i>
Children’s Online Privacy Protection Act (“COPPA”) - 1998	<p><i>Prohibits unfair or deceptive acts or practices in connection with the collection, use, and/or disclosure of personal information from and about children on the Internet (§312.1, Subchapter C, Chapter I, Title 16, Code of Federal Regulations).¹⁶</i></p>

¹⁵ 15 U.S.C. § 45(a).

¹⁶ 15 U.S.C. § 6501.

U.S. Contract law – common law.	Unconscionability doctrine ¹⁷ Lack of assent due to insufficient notice under clickwrap/browsewrap agreements.
Other	Other general principles of common law.
Specific legislation on dark patterns (current and prospective) in the U.S	
State law: California Consumer Privacy Act (CCPA) (2018), amended by the California Privacy Rights Act (CPRA) ¹⁸	This Act includes a definition of dark patterns and states that agreements obtained through use of dark patterns does not constitute consent.
State law: California Age-Appropriate Design Code (AADC) ¹⁹	This Code will be effective July 1, 2024 ²⁰ It defines dark patterns and states that businesses that provide an online service, product, or feature likely to be accessed by children shall not “ <i>use dark patterns to lead or encourage children to provide personal information beyond what is reasonably expected to provide that online service, product, or feature to forego privacy protections, or to take any action that the business knows, or has reason to know, is materially detrimental to the child’s physical health, mental health, or well-being</i> ” ²¹

¹⁷ See Restatement Second of Contracts § 208; Uniform Commercial Code §2-302; *Henningsen v. Bloomfield Motors, Inc.*, 32 N.J. 358 (1960); Clinton A. Stuntebeck, *The doctrine of unconscionability*, ME. L. REV. 19 (1967): 81.

¹⁸ California Privacy Rights Act of 2020, Cal. Civ. Code §§ 1798.100-1798.199 (2020).

¹⁹ California Age-Appropriate Design Code Act, Assembly Bill No. 2273, Chapter 973 (2022). Consulted at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB2273.

²⁰ *Ibid*, 1798.99.31. (d).

²¹ *Ibid*, 1798.99.31. (b)(7).

State law: Colorado Privacy Act (CPA) ²²	This Act went into effect July 1, 2023 ²³ It defines dark patterns and prohibits their use when obtaining consent. ²⁴
State law: Connecticut Data Privacy Act (CDPA) ²⁵	This Act went into effect July 1, 2023 ²⁶ It defines dark patterns and states that agreements obtained through use of dark patterns does not constitute consent. ²⁷
Bill for Federal Law: American Data Privacy and Protection Act (ADPPA)	This bill was introduced in 2021. The law prohibits obtaining consent through “ <i>the design, modification, or manipulation of any user interface with the purpose or substantial effect of obscuring, subverting, or impairing a reasonable individual’s autonomy, decision making, or choice to provide such consent or any covered data.</i> ” ²⁸
Bill for Federal Law: Deceptive Experiences to Online Users Reduction Act (DETOUR Act)	This bill was re-introduced on July 2023 to “prohibit the use of exploitative and deceptive practices by large online operators” ²⁹ This bill seeks to prohibit large online operators to “ <i>design, modify, or manipulate a user interface on an online service with the</i>

²² Colo. Rev. Stat. § 6-1-1303.

²³ General Assembly of the State of Colorado, Senate Bill 21-190 Section 7, Consulted at: https://leg.colorado.gov/sites/default/files/2021a_190_signed.pdf.

²⁴ Colo. Rev. Stat. § 6-1-1303.

²⁵ Connecticut Data Privacy Act, Public Act No. 22-15 (2022). Consulted at: <https://www.cga.ct.gov/2022/act/Pa/pdf/2022PA-00015-R00SB-00006-PA.PDF>.

²⁶ Ibid.

²⁷ Ibid.

²⁸ American Data Privacy and Protection Act, H.R. 8152, 117th Cong. § 2(1)(D) (2023).

²⁹ Deceptive Experiences To Online Users Reduction (DETOUR) Act, S. 2708, 118th Cong. (2023) Consulted at: <https://www.congress.gov/bill/118th-congress/senate-bill/2708/text?s=1&r=1&q=%7B%22search%22%3A%22DETOUR+Act%22%7D>

	<i>purpose or substantial effect of obscuring, subverting, or impairing user autonomy, decision making, or choice to obtain consent or user data”.</i>
--	--

Overview of the evolution of the legislative framework policing dark patterns in the U.S. (Figure 1.)

As we have seen in this section, the current state of affairs of the legal and regulatory framework policing dark patterns is still fragmentary and spread across different areas of law. New legislation in the US currently focuses on prohibiting privacy-related dark patterns.

Yet, the use of deceptive or manipulative contractual techniques by digital players could cause a market failure. Comprehensibility and transparency in digital contracting could tackle such potential market failures. This leads us to consider the General Theory of Legal Design in Commercial Contracting within the Law and Economics Framework.³⁰

APPLYING LAW AND ECONOMICS THEORY ON LEGAL DESIGN TO TACKLE DARK PATTERNS

Dark patterns as a market distortion

Neoclassical economics has its foundation on the assumptions that market participants are rational, they have perfect knowledge, and that they behave in order to maximize their self-interest utility. However, human actions systematically diverge from the *homo economicus*, and thus the economic model.³¹ Empirical studies and experiments in cognitive psychology have taken the bottom from this *homo economicus* assumption and shed a light on the recurrent irrationalities in market actors' behavior. Market actors often rely on heuristics in their fast decision making, namely, actors employ cognitive shortcuts that

³⁰ Katri Nousiainen, *General Theory of Legal Design in Law and Economics Framework of Commercial Contracting*, 5(4) J. STRATEGIC CONT. & NEGOT. (Special Issue) 247-256 (2021).; Katri Nousiainen, *Legal Design in Commercial and Business Sustainability – New Legal Quality Metrics Standards*, 6(2) J. STRATEGIC CONT. & NEGOT. 137-158 (2022).; Katri Nousiainen, *Measuring the Impact and Value of Legal Design in Commercial Contracting in Law and Economics Framework*, Hanken Sch. Of Econ. - Econ. & Soc'y. 1-22 (2023).

³¹ Russel B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the rationality assumption from law and economics*, 88(4) CAL. L. REV. 1051, X (2000).

can be helpful in everyday life decision making.³² However, these shortcuts can result in different outcomes than would be the case with deliberate decision making.³³ Exploiting these heuristics and human biases has been, from early on, one of the ways for companies to try to increase their profits through manipulative behavior. This practice of abusing cognitive biases in an online space is regarded as *sludging*. Unlike *nudging*, *sludging* is not aligned with market actors' preferences for maximizing utility.³⁴

According to rational choice theory and neo-classical economics, and given certain assumptions, market mechanisms will establish an optimal price level through supply and demand, leading to an optimal distribution of resources.³⁵ The rational choice theory frequently predicts perfect knowledge and rationality; however, this does not reflect well on the real world, where people do not always behave rationally or have perfect knowledge. Thus, often the overall utility could be increased through reallocation where the distribution of scarce resources is sub optimal. In economics literature, market failure is described as a situation where there is a room for Pareto-improvements, but it cannot be realized through market mechanisms.³⁶

There exists vast law and economics and behavioral economics literature studying the various heuristics and cognitive biases which web designers are currently exploiting to influence the behavior of market actors. Academic literature and experimental evidence can provide for understanding the dark patterns impact on human behavior.³⁷

³² DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011); Rainer Böhme & Stefan Köpsell, *Trained to accept? A field experiment on consent dialogs*, Proceedings of the SIGCHI Conference on Human Factors in Computing Systems 2403 (2010).

³³ Amos Tversky & Daniel Kahneman, *Judgement under uncertainty: Heuristics and Biases*, 185 (4157) SCI. 1124 (1974).

³⁴ Richard H. Thaler, *Nudge, not sludge*, 361 SCI. 431 (2018); RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* (1st ed. 2008).

³⁵ Kenneth J. Arrow, *The Potentials and Limits of the Market in Resource Allocation*, in *Issues in Contemporary Microeconomics and Welfare* 107 (Feiwel, G.R. eds., 1985).

³⁶ Francis M. Bator, *The Anatomy of Market Failure*, 72 Q. J. ECON. 351 (1958).

³⁷ Nouwens, M., Licardi, I., Veale, M., Karger, D. & Kagal, L. 2020. Dark Patterns after the GDPR: Scraping Consent Pop-ups and Demonstrating their Influence. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (Honolulu, USA), available at <https://doi.org/10.1145/3313831.3376321>;
Machuletz, D. & Böhme, R. 2020. Multiple Purposes, Multiple Problems: A user Study of Consent Dialogs after GDPR. *Proceedings of the Privacy Enhancing*

Some of the often-identified heuristics and biases that are considered as influential in the dark pattern framework are the following (See Figure 2).

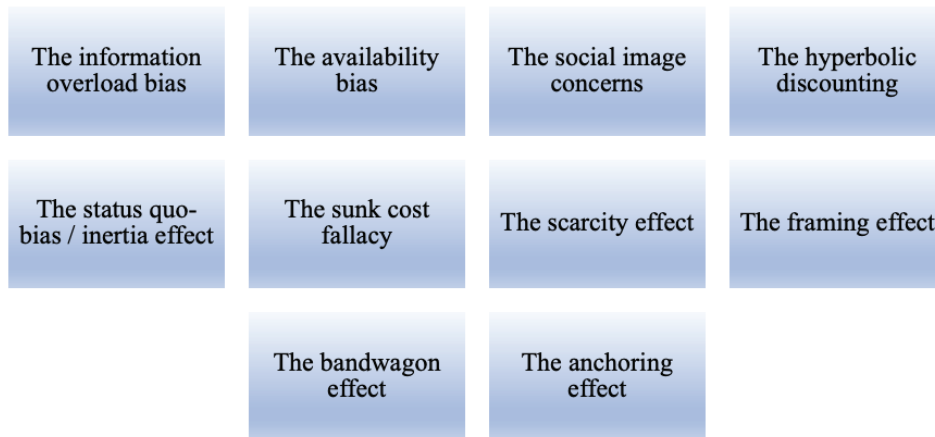


Figure 2. Some of the various heuristics and biases that are often employed in the dark pattern context³⁸

Technologies, 2020(2), 481-498, available at <https://doi.org/10.2478/popets-2020-0037>; Luguri, J., & Strahilevitz, L. 2021. Shining a Light on Dark Patterns. *Journal of Legal Analysis*, 13(1), 67.; Thaler, R.H., & Sustein, C.R. 2008. *Nudge: Improving Decisions about Health, Wealth, and Happiness* (1st ed.). New Haven (the USA): Yale University Press.

³⁸ Information bias - Scammon, D. (1977). "Information Load" and Consumers. *Journal of Consumer Research*, 4(3), 148-155; The availability bias - Tversky, A., & Kahneman, D. (1973). Availability: A Heuristic for Judging Frequency and Probability. *Cognitive Psychology*, 5(2), 207-232; The social image concerns - Bursztyn, L., & Jensen, R. (2017). Social Image and Economic Behavior in the Field: *Identifying, Understanding and Shaping Social Pressure*, *Annual Review of Economics*, 9, 131-153; The hyperbolic discounting - Loewenstein, G., & Thaler, R. H. (1989). Anomalies: Intertemporal Choice. *The Journal of Economic Perspectives*, 3(4), 181-193; The status quo bias - Samuelson, W., & Zeckhauser, R. (1988). Status Quo Bias in Decision Making. *Journal of Risk and Uncertainty*, 1(1), 7-59; The sunk cost fallacy - Arkes, H. R., & Ayton, P. (1999). The Sunk Cost and Concorde Effects: Are humans less rational than lower animals? *Psychological Association*, 125(5), 591-600; The scarcity effect- Worchel, S., Lee, J., & Adewole, A. (1975). Effects of Supply and Demand on Ratings of Object Value. *Journal of Personality and Social Psychology*, 32(5), 906-914; The framing effect - Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453-458; The bandwagon effect - Lang, K., & Lang, G. E. (1984). The Impact of

The exploitation of these biases will affect the functioning of the market, making it sub optimal, as these manipulative designs will make the market actors behave against their preferences:

Consumers buy things that they do not really want. They give up their scarce resources (i.e., money) for things that do not necessarily increase their utility.

Consumers buy more products. The utility function works sub-optimally. Consumers spend their scarce resources buying more than would be established by their rational preferences - this can naturally cause financial difficulties. The consumer utility function and bundle are affected – as now, they are worse off, as they have less scarce resources left to use elsewhere.

Consumers pay a higher price. Their buying decision is now based on perceived price, making the demand higher, for instance through the scarcity patterns. Here, the company captures the consumer welfare - since consumers now buy products without any effective change in product prices.

Market entry and competition is distracted. Manipulative practices allow companies to compete employing perceived prices, and consequently, consumers pay higher prices. They also bear higher financial risks - compared to a competitive market where companies compete in decreasing prices, not raising them.

Online contracting can be complex, incomprehensible, and manipulating. Many companies are taking the advantage of human heuristics and various biases in their online contracting practice to engage their clients more tightly, to sell them more, and with a higher price. As shown, this practice is unsustainable for the market operators as it distracts the proper functioning of the market – making it sub-optimal. The current practice makes the consumers worse off due to price increase and the decrease of the scope of their utility bundle.

Legal design can provide for a more realistic understanding of human mind, behavior, and the value of comprehensibility in contracting, thus supporting the economic market to function in a more optimal way.³⁹

Polls on Public Opinion. *The Annals of the American Academy of Political and Social Science*, 472, 129-142; The anchoring effect - Tversky, A., & Kahnemann, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185(4157), 1124-1131.

³⁹ KAHNEMAN, *supra* note 33; Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, 5 *COGNITIVE PSYCH.* 207 (1973); Tversky & Kahneman *supra* note 33; Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 *SCI.* 453 (1981);

Legal Design and Commercial Contracting

Legal design builds upon design thinking process, and takes the advantage of interdisciplinary best practices, design methods, and technology⁴⁰ in increasing quality of legal products, services, and

Gerlinde Berger-Walliser, et. Al., *From Visualization to Legal Design: A Collaborative and Creative Process*, 54 AM. BUS. L.J. 347 (2017); *Legal Design*, *supra* note 30, at 137; *Measuring the Impact*, *supra* note 30; *General Theory*, *supra* note 30, at 256.

⁴⁰ See for instance, Kyoko Watanabe, et. Al., *Framework for Problem Definition—A Joint Method of Design Thinking and Systems Thinking*, 27th Annual INCOSE International Symposium 57-71 (2017); Gerlinde Berger-Walliser, et. Al., *Promoting Business Success Through Contract Visualization*, 17 J. L. BUS. & ETHICS 55 (2011); Jay A. Mitchell, *Putting Some Product Into Work-Product: Corporate Lawyers Learning From Designers*, BERKLEY BUS. L. J., 1 (2015); Stefania Passera, *Flowcharts, Swimlanes, and Timelines: Alternatives to Prose in Communicating Legal—Bureaucratic Instructions to Civil Servants*, 32 J. BUS. TECH. COMMUN. 229–272 (2018); David Berman, *Toward a New Format for Canadian Legislation: Using Graphic Design Principles and Methods to Improve Public Access to the Law*, *Toward a New Format for Canadian Legislation* (2000) (Can.); Kevin Conboy, *Diagramming Transactions: Some Modest Proposals and a Few Suggested Rules*, 16 TRANSACTIONS: TENN. J. BUS. L. 91 (2014); Arthur M. Glenberg & William E. Langston, *Comprehension of Illustrated Text: Pictures Help to Build Mental Models*, J. MEMORY & LANGUAGE, 31, 129–151 (1992); GLPi & Vicky Schmolka, *Results of Usability Testing Research on Plain Language Draft Sections of the Employment Insurance Act*, DEP'T OF JUST. CANADA AND HUM. RES. DEV. CANADA (2000) (Can); Joseph Kimble, *The Elements of Plain Language*, 81 MICH. B. J. 44 (2002); Jill H. Larkin & Herbert A. Simon, *Why a Diagram is (Sometimes) Worth Ten Thousand Words*, 11 COGNITIVE SCI., 65–100 (1987); Richard E. Mayer, et. Al., *When Less is More: Meaningful Learning From Visual and Verbal Summaries of Science Textbook Lessons*, 88 J. EDUC. PSYCH., 64–73 (1996); Hayley Rogers, *Good Law: How Can the Design of Bills and Acts Help?* in *Designing Democracy: How Designers are Changing Democratic Spaces and Processes*, 56-60 (Turner, N., ed. Design Commission 2015); Adam Rosman, *Visualizing the Law: Using Charts, Diagrams, and Other Images to Improve Legal Briefs*, 63 J. LEGAL EDUC. 70 (2013); John Strylowski, *Using Tables to Present Complex Ideas*, 92 MICH. B.J. 44 (2013); Robert Waller, et. Al., *Cooperation Through Clarity: Designing Simplified Contracts*, 2(1-2) J. OF STRATEGIC CONTRACTING AND NEGOT. 48-68 (2016); George G. Triantis, *Improving Contract Quality: Modularity, Technology, and Innovation in Contract Design*, 18 STAN. J.L. BUS. & FIN. 177 (2013); Richard H. Thaler & Will Tucker, *Smarter Information, Smarter Consumers*, HARV. BUS. REV. Jan.-Feb. 2013 at 45; Federal Plain Language Guidelines (2011); Plain English Manual (Australian Government Office of Parliamentary Counsel 2013) (Au.); Malcolm I. Bauer & Philip N. Johnson-Laird, *How Diagrams Can Improve Reasoning*, 4 PSYCH. SCI., 372–378 (1993); Henry E. Smith, *Modularity in Contracts: Boilerplate and Information Flow*, 104 MICH. L. REV. 1175 (2006); Margaret Hagan, *A Human-Centered*

processes⁴¹ Legal design's objectives include but are not limited to: increasing legal comprehension, transparency of legal processes and access to justice, empowering people with law, helping people to understand their legal rights and obligations, creating more equal standing and reducing knowledge and information asymmetry. Overall, legal design creates systemic impact in society⁴² and functions in four

Design Approach to Access to Justice: Generating New Prototypes and Hypotheses for Interventions to Make Courts User-Friendly, 6 IND. J.L. & SOC. EQUAL. 199 (2018); James E. Cabral, et. Al., *Using Technology to Enhance Access to Justice*, 26 HARV. J.L. & TECH., 241 (2012); Margaret Hagan, *Introduction to Design Thinking for Law*, Legal Informatics, (Daniel M. Katz, Ron Dolin, & Michael J. Bommarito, eds., Cambridge Univ. Press 2021).; DAVID HOWARTH, LAW AS ENGINEERING: THINKING ABOUT WHAT LAWYERS DO, 65-68 (2014); David Howarth, *Is Law a Humanity (or Is It More like Engineering)?*, 3 ARTS & HUM. IN HIGHER ED. 9 (2004).; IDEO, THE FIELD GUIDE TO HUMAN-CENTERED DESIGN 11 (1st ed. 2015).; Katri Nousiainen, *The Application of Legal Design to Complex System Theory on Commercial Contracting within Law and Economics Framework*, Proceedings of the 25th International Legal Informatics Symposium IRIS 2022, https://iris-conferences.eu/iris22_23-26feb22 (February 22-23, 2022); Public Writing Act of 2010, 5 U.S.C. § 105.; Spencer Williams, *Contracts as Systems*, 45 DEL J. CORP. L. 219, 274 (2021).; Clive L. Dym, et. Al., *Engineering Design Thinking, Teaching, and Learning*, 94 J. ENG'G. EDUC. 103-120 (2005).; Katri Nousiainen & J. Keski-Rahkonen, *Legal Business in The Post-Quantum Society*, available at <https://www.legal-businessworld.com/post/legal-business-in-the-post-quantum-society>.; Katri Nousiainen & J. Keski-Rahkonen, Quantum Computing (Berkeley Tech. L. J. Podcast 2022).

⁴¹ *General Theory*, *supra* note 30, at 247-256.; For *design thinking* see, A Design Thinking Process, Mechanical Engineering Design ME113, Stanford University (2012) https://web.stanford.edu/class/me113/d_thinking.html.

⁴² See for instance, James E. Cabral, et. Al., *Using Technology to Enhance Access to Justice*, 26 HARV. J.L. & TECH., 241 (2012); Margaret Hagan, *A Human-Centered Design Approach to Access to Justice: Generating New Prototypes and Hypotheses for Interventions to Make Courts User-Friendly*, 6 IND. J. L. & SOC. EQUAL. 199 (2018); Bonnie Rose Hough, *Let's Not Make It Worse: Issues to Consider in Adopting New Technology*, 26 HARV. J.L. & TECH., 256 (2012); James E. Cabral & Thomas M. Clarke, *Access to Justice Integration with Emerging Court Technologies*, 26 HARV. J.L. & TECH., 278-79 (2012); JOHN GREACEN, EXECUTIVE SUMMARY OF THE RESOURCE GUIDE ON SERVING SELF-REPRESENTED LITIGANTS REMOTELY (2016).; Linda Rexer & Phil Malone, *Overcoming Barriers to Adoption of Effective Technology Strategies for Improving Access to Justice*, 26 3 HARV. J.L. & TECH., 05 (2012); Chris Johnson, *Leveraging Technology to Deliver Legal Services*, 23 HARV. J.L. & TECH., 259 (2009); David Berman, *Toward a New Format for Canadian Legislation: Using Graphic Design Principles and Methods to Improve Public Access to the Law*, TOWARD A NEW FORMAT FOR CANADIAN LEGISLATION (2000) (Can.); Arianna Rossi & Monica Palmirani, *Can Visual Design Provide Legal Transparency? The Challenges for Successful Implementation of Icons for Data*

major ways: empowering, improving, supporting, and demonstrating.⁴³

A recent empirical study shows that legal design provides for more comprehensible, transparent, and higher quality contracting.⁴⁴ Thus, legal designed contracting practice for increased comprehension is proposed as one of the solutions to tackle dark patterns in the digital world.

We propose legal design for online contracting to increase comprehension, transparency, and end-user centricity to tackle the use of dark patterns, and to improve the quality and efficiency of online services, processes, and products. Next, we will explain the general theory of legal design within the law and economics framework⁴⁵ by indicating seven incentives and benefits for companies to employ legal design and to refrain from using dark patterns in online contracting. We also explain why it is in the best interest of profit-maximizing firms to employ comprehensible practices and transparent contracting.

General Theory of Legal Design within the Law and Economics Framework

Law and economics, which is the application of economic theory, especially microeconomic theory, to the analysis and practice of law, provides valid tools to understand and investigate dark patterns as a legal phenomenon in online contracting in data driven economic markets. The economic contract theory, *General Theory of Legal Design*

Protection, Design Issues, Summer 2020 at 82-96.; Katri Nousiainen, *General Theory of Legal Design in Law and Economics Framework of Commercial Contracting*, 5(4) J. STRATEGIC CONT. & NEGOT. (SPECIAL ISSUE) 247-256 (2021); Margaret Hagan, *Legal Design as a Thing: A Theory of Change and a Set of Methods to Craft a Human-Centered Legal System*, Design Issues, Summer 2020, at 3–15; Margaret Hagan, *Exploding the Fine Print: Designing Visual, Interactive, Consumer-Centric Contracts and Disclosures*, in Legal Tech, Smart Contracts and Blockchain 93-122 (Marcelo Corrales, Mark Fenwick, & Helena Haapio eds., Springer Nature Singapore Pte. Ltd. (2019)); Michael Doherty, *Comprehensibility as a Rule of Law Requirement: The Role of Legal Design in Delivering Access to Law*, 8 J. OPEN ACCESS L. 1 (2020).

⁴³ Katri Nousiainen, *What have I signed? Do I really understand the contract?*, 20 CONT. EXCELLENCE JOURNAL (2020).

⁴⁴ *Measuring the Impact*, *supra* note 30 at 252.

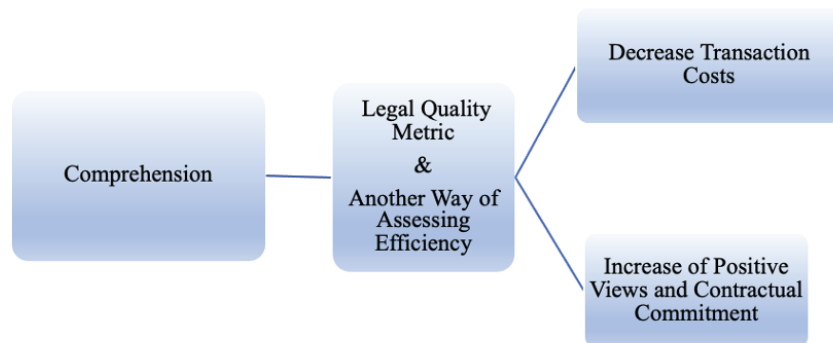
⁴⁵ *General Theory*, *supra* note 30, at 247-256; *Legal Design*, *supra* note 30, at 137-158.

within the Law and Economics Framework,⁴⁶ provides incentives and other benefits to tackle the use of dark patterns in online contracting and explains why it is in companies' best interests to employ more transparent and comprehensible online contracting practice instead of employing dark patterns.

Comprehension as a Legal Quality Metric

Adopted from the law and economics framework, comprehension is regarded as a legal quality metric, and as another way of assessing efficiency in contracting practice. Increased comprehension could decrease contracting related transaction costs, such as time, various scarce resources, and the likelihood of disagreements and disputes, while also increasing positive views, such as empathy, trust, and contractual commitment.⁴⁷ (Figure 3.).

Figure 3. Comprehension as a legal quality metric and another way of assessing efficiency



Comprehension should be applied and employed together with other legal quality metrics, such as usability, time, length, plain language, and clarity to increase efficiency and transparency in contracting. Legal quality metrics create the foundation for sustainable contracting and business practice - they build value for both contracting parties through mutual increased understanding of the contractual legal

⁴⁶ *General Theory*, *supra* note 30, at 247-256.; *Legal Design*, *supra* note 30, at 137-158.

⁴⁷ *Measuring the Impact*, *supra* note 30, at 252.

rights and obligations.⁴⁸ Ideally, comprehension is assessed regularly, and the practice of conveying information is improved accordingly.⁴⁹

Innovation & Business Sustainability

Innovating is regarded as a prerequisite to anyone seeking to earn profits.⁵⁰ Profits can be earned through producing successful innovations.⁵¹ Business leaders around the world⁵² regard innovation as one of the primary sources for creating competitive business advantage, differentiating between market operators, and fostering

⁴⁸ *Legal Design*, *supra* note 30, at 137-158; *Measuring the Impact*, *supra* note 30, at 252.

⁴⁹ F.B. Davis, *Fundamental Factors of Comprehension in Reading*, 9 PSYCHOMETRIKA 185, 185-197 (1944); J.M. Keenan, R.S. Betjemann & R.K. Olson, *Reading Comprehension Tests Vary in the Skills they Assess: Differential Dependence on Decoding and Oral Comprehension*, 12 SCI. STUD. OF READING 281, 281-300 (2008); *Legal Design*, *supra* note 30, at 137-158.

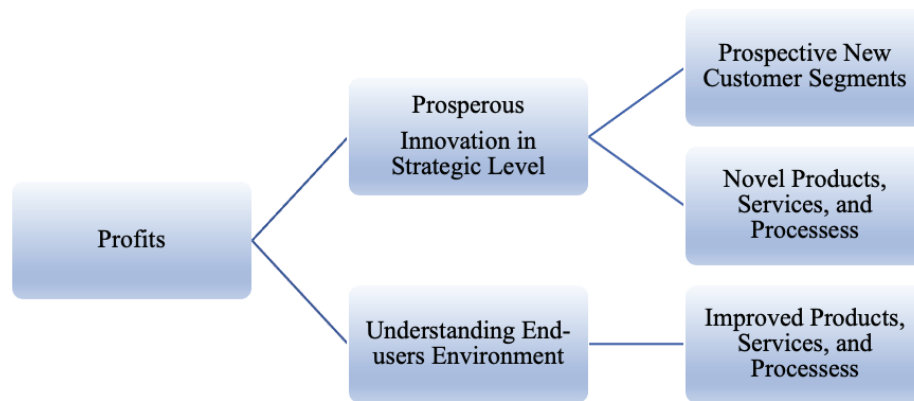
⁵⁰ See, e.g., Joseph Schumpeter, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, 46 HARV. ECON. STUD. 66, 66-68 (Redvers Opie trans., 1934); JOSEPH SCHUMPETER, CAN CAPITALISM SURVIVE? (1952); Timothy Kiessling, *Entrepreneurship and Innovation: Austrian School of Economics to Schumpeter to Drucker to now*, 9 J. OF APPLIED MGMT. & ENTREPRENEURSHIP 80 (2004); Richard Gilbert, *Looking for Mr. Schumpeter: Where Are We in the Competition—Innovation Debate?*, 6 INNOVATION POL'Y & THE ECON. 159, 159-215 (2006); JOSEPH A. SCHUMPETER, ESSAYS: ON ENTREPRENEURS, INNOVATIONS, BUSINESS CYCLES, AND THE EVOLUTION OF CAPITALISM 162 (Richard V. Clemence ed., 1st ed. 2017).

⁵¹ See, e.g., Karol Śledzik, *Schumpeter's View on Innovation and Entrepreneurship Management Trends in Theory and Practice*, Faculty of Management Science and Informatics, University of Zilina, 89-94 (2013); Joern H. Block, et. Al., *The Schumpeterian Entrepreneur: A Review of the Empirical Evidence on the Antecedents, Behaviour and Consequences of Innovative Entrepreneurship*, 24 INDUS. AND INNOVATION 61, 61-95 (2017); Erkko Autio, et. Al., *Entrepreneurial Innovation: The Importance of Context*, 43 RSCH. POL'Y 1097, 1108 (2014); PETER DRUCKER, INNOVATION AND ENTREPRENEURSHIP 1101 (1st ed. 2014).

⁵² See, e.g., MICHAEL A. CUSAMANO, STAYING POWER: SIX ENDURING PRINCIPLES FOR MANAGING STRATEGY AND INNOVATION IN AN UNCERTAIN WORLD (2010); Tim Brown, *Design Thinking*, HARV. BUS. REV., 58, 1-7 (2008). (References case studies on health care provider Kaiser Permanente, manufacturer of bicycle components Shimano (2004), eye care provider Aravind Eye Care Systems, and financial services company Bank of America (2005)); Rikke Dam & Teo Siang, *What is Design Thinking and Why Is It So Popular?*, INTERACTION DESIGN FOUNDATION, at 1-6 (2018).

business sustainability.⁵³ Understanding the end-users' conditions, the possible challenges, and the environment where they operate may reveal crucial information, such as that on prospective new customer segments and the need for novel or improved products, services, and processes.⁵⁴ Often, this information is not known or learned before applying legal design at a company's strategic level.⁵⁵ (Figure 4.)

Figure 4. Successful innovation is needed for business sustainability and to create profits



Signaling – Profits & Sustainable Business Development

⁵³ See for instance, N.P. Hoffman, *An Examination of the “Sustainable Competitive Advantage” Concept: Past, Present, and Future*, ACAD. OF MKTG. SCI. REVIEW, 4, 1-16 (2000); Tim Brown, *Design Thinking*, *supra* note 52 at 2; Alexander Brem, et. Al, *Competitive advantage through innovation: the case of Nespresso*, EUR. J. OF INNOV. MGMT., Vol. 19 No. 1, 133-148 (2016); R. Duane Ireland & Justin W. Webb, *Strategic entrepreneurship: Creating competitive advantage through streams of innovation*, BUS. HORIZONS, 50(1), 49-59 (2007).; Raphael Amit, & Christoph Zott, *Creating Value Through Business Model Innovation*, MIT SLOAN MGT. REV., 53(3), 41 (2012).

⁵⁴ *Design Thinking*, *supra* note 52, at 2.

⁵⁵ *Legal Design*, *supra* note 30, at 137–58; *Legal Design*, *supra* note 30, at 137–58.; *General Theory*, *supra* note 30, at 247–56.

Trust is regarded as crucial for successful contracting.⁵⁶ Longitudinal studies show that trust provides for increased transparency in contracting, and it is often built before parties enter a contract.⁵⁷ Adopted from the signaling theory,⁵⁸ it is hypothesized that implementing legal design to a company's contractual practice at a strategic level signals a company's quality, trustworthiness, and willingness to obey its contractual obligations to its stakeholders. This signaling of a company's implemented legal design practice could foster profit creation, and it enables sustainable long-term business development and collaboration. Collaboration and contractual commitment is more deeply rooted when contracting is done transparently, fairly, and the parties understand their legal rights and obligations.⁵⁹(Figure 5.) Employing dark patterns would impede the above-mentioned benefits.

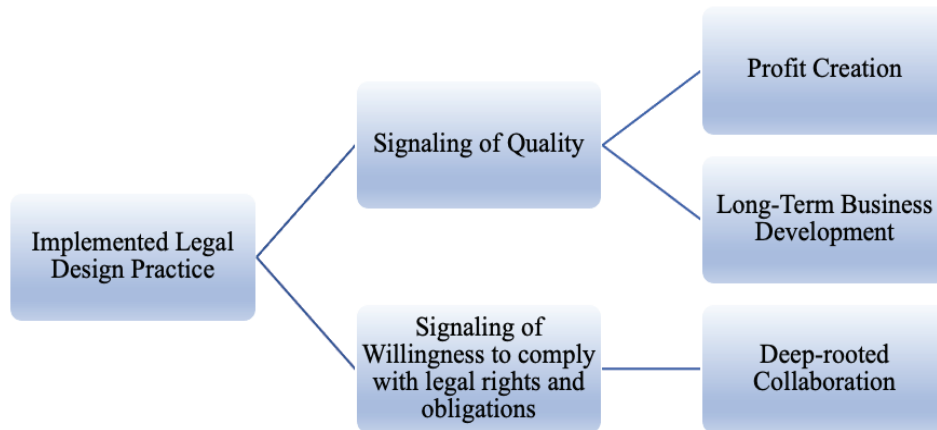
Figure 5. Signaling - Implementing legal design to a company's practice at a strategic level.

⁵⁶ Siegwart Lindenberg, *It Takes Both Trust and Lack of Mistrust: The Workings of Cooperation and Relational Signaling in Contractual Relationships*, 4(1) J.OF MGMT. AND GOVERNANCE., 11, 11-33 (2000); David DeSteno, et. Al., *Detecting the Trustworthiness of Novel Partners in Economic Exchange*, 23(12) PSYCH. SCI., 1549, 1549-1556(2012).

⁵⁷ See for instance, Rosalinde Klein Woolthuis, et. Al., *Trust, Contract and Relationship Development*, 26(6) ORG. STUD., 813, 833 (2005).; Andrea Larson, *Network Dyads in Entrepreneurial Settings: A Study of the Governance of Exchange Relationships*, 37(1) ADMIN. SCI. Q., 76,76–104 (1992).; Peter S. Ring & Andrew H. van de Ven, *Developmental processes of cooperative interorganizational relationships*, 19(1) ACAD. OF MGMT. REV. 90,90–118 (1994).

⁵⁸ Michael Spence, *Job Market Signaling*, 87(3) Q. J. OF ECON. 355, 355-374 (1973); Michael Spence, *Prize Lecture*, December 8, at Stanford Business School, Stanford University, 518 Memorial Way, Stanford CA 94305-5015, USA (2001); See further, Brian L. Connelly, et. Al. *Signaling theory: A review and assessment*, 37(1) J. OF MGMT. 39, 39-67 (2011).

⁵⁹ See for instance, Zev J. Eigen, *When and Why Individuals Obey Contracts: Experimental Evidence of Consent, Compliance, Promise, and Performance*, 41(1) J.OF LEG. STUD., 67, 67-93 (2012); Tess Wilkinson-Ryan, *The Perverse Consequences of Disclosing Standard Terms*, 103 CORNELL L. REV. 117(2017).; *General Theory*, supra note 30; *Legal Design in Commercial and Business*, supra note 30; *Measuring the Impact*, supra note 30.



Reducing Transaction and Opportunity Costs

Transaction costs are the total sunk costs resulting from economic trade in a market.

Transaction cost theories and economic literature suggest⁶⁰ that legal design will decrease transaction and opportunity costs due to its' comprehensible and transparent contracting practice. It is anticipated that it will reduce both ex-ante and ex-post transaction costs.⁶¹

As the law and economics literature has recognized, information is frequently costly,⁶² and the contracting parties at the back-

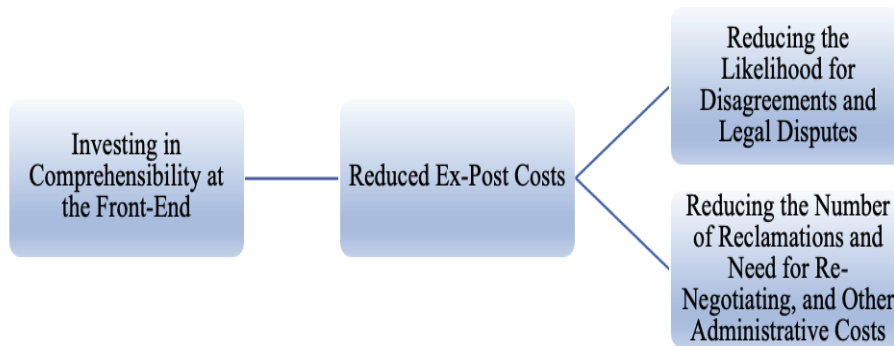
⁶⁰ See for instance, OLIVER WILLIAMSON & SCOTT MASTEN, *THE ECONOMICS OF TRANSACTION COSTS* (1999) (Details on transaction costs); Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J. OF L. & ECON., 233, 233-261(1979).; Guido Calabresi, *Transaction Costs, Resource Allocation and Liability Rules—A Comment*, 11 J. OF L. & ECON., 67, 67-73 (1968); CFI Team, *Transaction Costs*, CORPORATE FINANCE INSTITUTE, <https://corporatefinanceinstitute.com/resources/knowledge/economics/transaction-costs/>; SUZANNE YOUNG, *ENCYCLOPEDIA OF CORPORATE SOCIAL RESPONSIBILITY*, 2548 (Samuel O. Idowu Et Al. eds., 2013).; Robert E. Scott & George G. Triantis, *Anticipating Litigation in Contract Design*, 115 YALE L. J. 814 (2006); Robert E. Scott & George G. Triantis, *Incomplete Contracts and the Theory of Contract Design*, 56 CASE W. RESV. L. REV., 187, 190 (2005).; Ronald Coase, *The Problem of Social Cost*, 3 J. L. & ECON., U. CHL., 1, 1-44(1960).

⁶¹ *Legal Design in Commercial Contracting*, *supra* note 31, at 158.

⁶² See Thomas W. Merrill & Henry E. Smith, *What Happened to Property in Law and Economics*, 111 YALE L.J. 357, 385-97 (2001); Yoram Barzel, *Measurement Cost and the Organization of Markets*, 25 J.L. & ECON. 27, 47 (1982); Howard Beales, et. Al., *The Efficient Regulation of Consumer Information*, 24 J.L. & ECON. 491, 500-15 (1981).

end stage confront ex-post costs that are due to contract design decisions made at the ex-ante stage.⁶³ Further, some scholars have recognized that increasingly investing in a term specificity at the front-end will decrease the likelihood for disagreements, legal disputes, and other judicial proceedings - and thus the prospect of incurring back-end costs.⁶⁴ In addition, it is hypothesized that legal design will bring savings such as the reducing the number of reclamations, the need for re-negotiation, and the incurring of other administrative costs.⁶⁵ Dark patterns suppress these benefits of comprehensible and transparent contracting. Figure 6.

Figure 6. Investing in front-end quality



⁶³ Robert E. Scott & George G. Triantis, *Anticipating Litigation in Contract Design*, 115 YALE L.J. 814, 818-75 (2006); Robert E. Scott & George G. Triantis, *Incomplete Contracts and the Theory of Contract Design*, 56 CASE W. RES. L. REV. 187, 189-95 (2005).

⁶⁴ Spencer Williams, *Contracts as Systems*, 45 DEL. J. CORP. L. 219, 264 (2021); *Legal Design in Commercial Contracting*, *supra* note 30, at 151; *Measuring the Impact*, *supra* note 31, at 8; *General Theory*, *supra* note 30, at 251-54.

⁶⁵ *Legal Design in Commercial Contracting*, *supra* note 30, at 150-51.

Not a “Lemon” - Competitive Business Advantage

Founded in some economic models,⁶⁶ trust is regarded as a crucial metric in distinguishing bad quality from good quality. Borrowed from Akerlof’s theory on Lemons⁶⁷, a company that practices legal design signals that it is a good quality, trustworthy partner to contract with. As a company leads the way by demonstrating good quality through legal design, others in the market must follow this lead or risk being left behind or pushed out of the market, being regarded as bad quality, namely “lemons.” Markets reflect the behavior of its operators, and thus client recommendations and satisfaction are influential signals. Trustworthiness that is built through comprehensible, transparent contracting practices can support a company’s endeavors in strengthening its market position. A company known for its use of dark patterns may signal untrustworthiness and “bad quality”. Legal design, due to comprehensibility, can help generate a good reputation in the market. Thus, its practice is regarded as a competitive business advantage, and a way to help increase profits for those who apply it first.⁶⁸ Figure 7.

Figure 7. A Company Does Not Want to be Regarded as a Bad Quality Lemon



⁶⁶ George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 500 (1970) (discussing Akerlof’s theory of lemons).

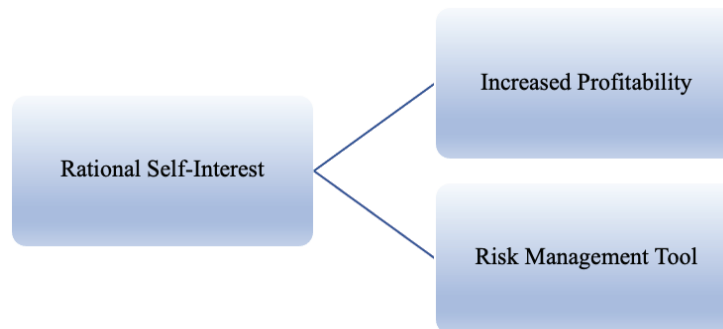
⁶⁷ *Id.*

⁶⁸ *Legal Design in Commercial Contracting*, *supra* note 30, at 150; *Measuring the Impact*, *supra* note 30, at 8-9; *General Theory*, *supra* note 30, at 252-54.

GAME THEORY

In most cases, self-interest is not regarded to conflict with collaboration and trust.⁶⁹ Borrowed from the non-cooperative game theoretical approach, even when companies are pursuing only its rational self-interest, it is in a company's best interest to apply legal design in their practice. Having a more comprehensible, higher quality practice is considered to lead to increased profitability and works as a risk management tool.⁷⁰

Figure 8. Non-Cooperative Game Theoretical Approach – Legal Design is a Company's Best Interest



Contractual Commitment

Legal design fosters human dimensional and empathic relationships⁷¹ through contractual practice. It reduces the room for vagueness and ambiguity, thus decreasing opportunities for negligent behavior and strategic non-compliance. Legal design is considered to lead to a more deep-rooted contractual commitment as the parties now have a better understanding of their rights and obligations. Furthermore, it is regarded that better comprehensibility decreases the need for re-negotiation and reduces unintentional and intentional contract breaches.⁷²

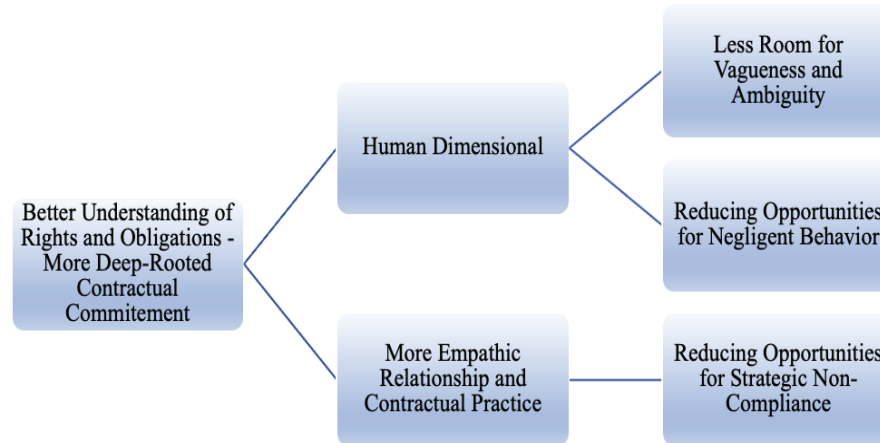
Figure 9. Legal Design Fosters Contractual Commitment

⁶⁹ Janet Chen, et. Al., *Axelrod's Tournament*, STANFORD ENG'G, <https://cs.stanford.edu/people/eroberts/courses/soco/projects/1998-99/game-theory/axelrod.html> (last visited Nov. 4, 2023).

⁷⁰ *Legal Design in Commercial Contracting*, *supra* note 30, at 158.

⁷¹ IDEO, *supra* note 40, at 11; *Legal Informatics* (Daniel M. Katz et al. eds., 2021).

⁷² *Legal Design*, *supra* note 30, at 158.



Ideally, the seven incentives mentioned above would shed a way for companies to prefer the use of legal design in their contracting practice, behaving in a more user-centric manner, instead of using dark patterns. It is possible the relevant authorities consider there is no need for further regulation or intervention to defeat the dark patterns phenomena in online contracting. If so, the presented law and economics theory on legal design in commercial contracting could provide the required incentives and benefits for companies to refrain from employing dark patterns in their online contracting.

It is acknowledged, however, that even making these presented incentives and benefits more widely known, it might be needed that the relevant authorities will *nudge*⁷³ the relevant market operators to employ more comprehensible online contracting practices.

Prospective market failures could suggest a justification for regulatory intervention. The following section offers some thoughts on how to move forward with solving the challenge of dark patterns employing regulatory tools in case nudging is not enough.

REGULATORY TOOLS TO SOLVE MARKET CHALLENGES

As was analyzed in Section 1, regulation in the U.S. used so far to tackle dark patterns has derived from fragmentary sources of law: privacy regimes, consumer protection, classic contract law, antitrust, among others.

⁷³ See Richard H. Thaler, *Nudge, Not Sludge*, 361 *SCI.* 431, 431 (2018).

Since dark patterns can take a variety of forms and affect many areas of law, legislation is a complex issue⁷⁴ There might be a need for more specific regulation to treat the market failure explained in Section 2 and defeat the practice of dark patters. Below, we offer a general overview of key topics that policymakers should consider when regulating dark patterns:

Inclusion of a Specific Definition of Dark Patterns

It could be desirable to include a definition of dark patterns in regulation that intends to police their use. An explicit definition (i) upholds the principle of legal certainty – norms should be as determinate as possible and be observed to the maximum degree possible⁷⁵; and (ii) provides more certainty to enforcement agencies and courts – if they have a fit-for-purpose regulation without the additional cost of finding exogenous legal sources to support their analysis, identification and enforcement is more likely⁷⁶

As explained in Part 1, the CPRA and other recent regulations in the U.S include express definitions of dark patterns. Once these regulations have been in force for a while and case law becomes available, it would be interesting to conduct further research on whether specific definitions and regulation boost the level of enforcement. A comparative study with the EU, where legislation does not currently address dark patterns explicitly, but authorities resort to general bodies of law and principles⁷⁷, would be ideal to measure the effectiveness of more definition-based regimes.

However, we acknowledge the significant challenges in designing a definition of dark patterns. First, this practice impacts various legal areas, which would incline regulators towards a broader definition. However, if a definition is crafted around general characteristics, it runs the risk of being too vague to defeat the practice of dark patterns

⁷⁴ See Jennifer King & Adriana Stephan, *Regulating Privacy Dark Patterns in Practice - Drawing Inspiration from California Privacy Rights Act*, 5 GEO. L. TECH. REV. 251 (2021).

⁷⁵ Robert Alexy, *Legal Certainty and Correctness*, 28 RATIO JURIS 441, 441 (2015).

⁷⁶ *Id.* at 443.

⁷⁷ Some examples of EU regulations that have been referenced to police dark patterns are the Unfair Commercial Practices Directive (Directive 2005/29/EC, amended by Directive 2019/2161/EU), the General Data Protection Regulation (*Regulation (EU) 2016/679*), The Digital Markets Act (DMA) (*Regulation 2022/1925*), and the Digital Services Act (*Regulation (EU) 2022/2065*).

by leaving grey areas. Moreover, there is a risk that then companies would alter their practice enough to circumvent the definition.⁷⁸ Conversely, if the definition provides a list of specific dark patterns prohibited, other harmful patterns will stay out of the scope of the regulation.⁷⁹ Additionally, the rapid evolution of dark patterns causes its own challenges for legal regulators to keep a definition up to date.

This complexity calls for a regulatory approach that is fit-for-purpose. For instance, a participatory design process, where there is active consulting and collaboration with stakeholders and experts⁸⁰ in dark patterns, such as UX designers, computer scientists and others, could foreseeably yield a robust and precise framework.

Rules-Based Approach

The current state of affairs described in Section 1 of this article describes cases where decision-makers have relied on general principles or bodies of law (e.g, general contract law) to police the employment of dark patterns. Nonetheless, the use of dark patterns by firms continues to rise. Policy makers of dark patterns regulation should consider introducing a rules-based approach. We offer some reasons below:

1. Rules-based regulations are explicit, detailed, and prescriptive, while principles may be too broad to be interpreted by decision-makers.⁸¹ Given the complexity of dark pattern structures, enforcement agencies and courts could be better served by clear rules and thresholds without a discretionary and subjective analysis on dark patterns.
2. Overall, rules-based regulations are more costly to produce, while general principles are more costly to interpret and apply as additional investigation is required.⁸² Dark patterns are intricate concepts that would require some level of expertise by enforcement authorities to apply general principles. Thus, general principles would likely increase the cost

⁷⁸ See King & Stephan, *supra* note 74, at 261.

⁷⁹ *Id.*

⁸⁰ See Margaret Hagan, *Participatory Design for Innovation in Access to Justice*, 148 DAEDALUS 120, 122 (2019).

⁸¹ Surendra Arjoon, *Striking a Balance Between Rules and Principles-based Approaches for Effective Governance: A Risks-based Approach*, 68 J. BUS. ETHICS 53, 55 (2006).

⁸² Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L. J. 557, 559 (1992).

of applying regulation, therefore reducing its use. Under a rules-based approach, regulators incur a one-time cost of producing accurate, technical legislation that can be readily applied.

3. Rules provide more legal certainty. Intended targets of the regulation do not incur high costs to determine whether the rules apply to them or their actions. Therefore, the deterrence effect is stronger, and conduct is more likely to abide by the rules.⁸³
4. Rules-based regimes are usually utilized when (i) there is a high degree of public interest on the regulated matter (ii) the subject-matter is highly complex, and (iii) ambiguities are not desirable. Principle-based regimes are utilized when (i) there is less public interest on the matter, and (ii) the subject-matter has a lower degree of complexity.⁸⁴

These reasons suggest that dark patterns fit the criteria for a rules-based regime as a more desirable format of regulation.

SANCTIONS

Fines

In the law and economics framework, the deterrence power of legal sanctions relies on two factors: (1) risk of detection and (2) size of the penalty.⁸⁵ Both factors are inversely proportional – if risk of detection is low, the size of the penalty should be larger to deter conduct. This means that, theoretically, imposing large penalties for the breach of dark patterns regulation should deter their employment, even if detection were highly unlikely.

Nonetheless, this raises two issues. First, financial sanctions rarely deter large firms. Certain companies are often so large that penalties - even those that may seem high to the average consumer - are perceived as a minimal cost of doing business.⁸⁶ Second, the amount of a given financial sanction may not reflect the true benefit that a firm received because of the penalized practice.⁸⁷ This is particularly the

⁸³ *Id.*

⁸⁴ See Arjoon, *supra* note 81, at 57.

⁸⁵ Roger C. Cramton, *Driver Behavior and Legal Sanctions: A Study of Deterrence*, 67 MICH. L. REV. 421 (1969).

⁸⁶ Lauren E. Willis, *Performance-Based Remedies: Ordering Firms to Eradicate Their Own Fraud*, 80 LAW & CONTEMP. PROBS. 7, 21 (2017).

⁸⁷ *Id.* at 21.

case for dark patterns, where the benefits can be enormous. Empirical studies have shown how, for instance, the employment of mild dark patterns in an interface has doubled the percentage of users of a service, and how aggressive models of dark patterns quadrupled this percentage.⁸⁸

In the U.S., the FTC recently fined Epic Games with a \$275 million civil penalty for violating COPPA rules⁸⁹ and ordered Epic to pay \$245 million in refunds for victims of dark patterns employed by Epic in the game Fortnite. This is the largest penalty ever obtained for violating an FTC rule. It calls for further analysis to confirm whether this decision has a deterrent effect on Epic's future behavior or on similar gaming firms.

Compensation of Damages or Disgorgement

In U.S. contract law, courts are reluctant to award damages that are not reasonably certain.⁹⁰ Damages inflicted on consumers due to dark patterns can be difficult to quantify, thus posing additional hurdles to proving certainty. Accordingly, sanctioning this behavior through appropriate damages is more difficult.

This already proved challenging in *McDonald v. Killoo*. In the order of preliminary approval of class action settlement of this and other similar cases, plaintiffs argued that “further litigation would have been time-consuming and risky, and any damage award was uncertain and likely to have been nominal for most class members.”⁹¹

Regarding disgorgement mechanisms to deter illegal conduct, profits disgorged “must cover the total harm created by the conduct, divided by the ex-ante probability of detection and successful adjudication.”⁹² Therefore, disgorgement mechanisms pose the same difficulty of assessing the amount of harm created by the dark pattern employed, thus not allowing the use of disgorgement as effective deterrents.

⁸⁸ See Luguri & Strahilevitz, *supra* note 12.

⁸⁹ See U.S. v. Epic Games, Inc., *supra* note 14.

⁹⁰ Restatement (Second) of Contracts § 352 (“Damages are not recoverable for loss beyond an amount that the evidence permits to be established with reasonable certainty”).

⁹¹ See *McDonald v. Killoo*, *supra* note 8.

⁹² Tembinkosi Bonakele & Liberty Mncube, *Designing Appropriate Remedies for Competition Law Enforcement: The Pioneer Foods Settlement Agreement*, 8(2) J. COMPETITION L. & ECON. 425-447 (2012).

In general, compensatory damages and disgorgement have been found ineffective at remedying and deterring deceptive practices.⁹³

LACK OF CONSENT

As described in Section 1, regulations like the CPRA and the CPA propose specific dark patterns regulation. In this quest, they also propose a specific sanctions system: *an agreement obtained through use of dark patterns does not constitute consent*.⁹⁴ Interestingly, this solution stemming from data privacy would not *per se* conflict with classic contract law where, as explained in Section 1, dark patterns could be treated as an issue of assent like in *Specht v. Netscape*, or a matter of unconscionability.

Once these new sanctions have been enforced to police dark patterns, it would call for further research to understand whether they are effectively deterring this behavior, or if sanctions under classic contract law would suffice.

Proportionality of Regulation

As discussed in Section 2 of this article, prospective market failures could suggest a justification for regulatory intervention. Any prospective regulation on dark patterns must be proportionate to the intended goals⁹⁵

Legal Design Approach in Drafting Legislation

Regulation on dark patterns should be structured according to the legal design principles analyzed in Section 2: user-centric, comprehensible, transparent. This approach will likely allow firms and consumers to better understand their obligations and rights respectively. This increases the likelihood of dark patterns' regulation achieving its objectives.

⁹³ See Willis, *supra* note 86.

⁹⁴ California Privacy Rights Act of 2020, Cal. Civ. Code §§ 1798.140(h).

⁹⁵ European Commission, *The principles of subsidiarity and proportionality: Strengthening their role in the EU's policymaking* (2018). Consulted at: https://commission.europa.eu/system/files/2018-10/communication-principles-subsidiarity-proportionality-strengthening-role-policymaking_en.pdf.

CONCLUSION

The current online contracting practice is shadowed by companies employing dark patterns in their websites' design. These design-based patterns are working and, thus, they provide short term economic incentives and benefits for companies. However, as we have presented, these short-sighted gains for companies will distract the market - making it function sub-optimally. Eventually, the employment of dark patterns will make consumers worse off as they will pay higher prices and often end up buying items or engaging in contracts they were not meant to. The employment of dark patterns will also lead to overall less healthy market competition, decreasing consumers option fulfilling their utility bundle - as the employment of dark patterns practice also tends to hinder market entry and competition. These mentioned traits could lead to a market failure.

As shown, the law and economics theory (Section 2) provides seven incentives for companies to prefer comprehensible contracting practices through legal design, instead of using dark patterns. Legal design can provide for more comprehensibility in commercial contracting, as it provides both economic and social responsibility incentives and benefits to companies to employ more comprehensible online contracting practices. However, we acknowledge that a neutral choice architecture is a difficult task, as human beings are constantly driven by heuristics and biases. Thus, the call for action is to design good choice architectures that, at the very least, are proactive in avoiding foreseeable harm on consumers and the market.

It is acknowledged that these incentives might not be enough to correct current behavior, thus, relevant authorities might need to nudge towards the use of more user-centric and comprehensible practices.

Regulatory intervention could be justified – on economic and social grounds – in case the market mechanisms fail to correct the market situation. Thereby, we have proposed a two-fold solution to defeat dark patterns in online contracting and restore the proper functioning of the market, namely, economic theory based on a legal design approach or regulatory intervention.

To conclude, even borrowing from the game theoretical understanding, it is in a company's best interest to contract more clearly and transparently even if a company is only looking to maximize its own self interests. Whether the measure employed to defeat dark patterns is an intervening regulation or an economic contract theory - it is

nonetheless clear that there exists a pressing need to tackle this legal phenomenon in online contracting.

This article has opened a new research direction for investigating and assessing the impact and value of legal design in online contracting for tackling the practice of dark patterns.